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To:

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WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing
(day/month/year) 28 OCTOBER 2004 (28.10.2004)

Applicant's or agent's file reference
NANO-DEVICES

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/KR2004/000166

International filing date (day/month/year)
30 JANUARY 2004 (30.01.2004)

Priority date(day/month/year)

International Patent Classification (IPC) or both national classification and IPC

IPC7 D01D 5/00

Applicant

KIM, Hak-Yong et al

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.
For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/KR



Korean Intellectual Property Office
920 Dunsan-dong, Seo-gu, Daejeon 302-701,
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Authorized officer

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Telephone No. 82-42-481-5619



**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/000166

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/KR2004/000166

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1 - 16	YES
	Claims	None	NO
Inventive step (IS)	Claims	1 - 16	YES
	Claims	NOne	NO
Industrial applicability (IA)	Claims	1 - 16	YES
	Claims	None	NO

2. Citations and explanations :

Reference is made to the following document:

D1 : KR 0258651 Y1

Claim 1 of the present invention relates to a bottom-up electrospinning apparatus comprising a spinning dope main tank, a metering pump, a voltage generator, a nozzle block and a collector disposed above said nozzle block, which is characterized by a spinning dope discharge device on said nozzle block.

D1 relates to a bottom-up electrospinning apparatus, which is similar as the present invention in the technical feature. However, the present invention is different in that the spinning dope discharge device transferring automatically oversupplied spinning dope in the nozzle block into the spinning dope main tank, is connected to said nozzle block.

Consequently, the bottom-up electrospinning apparatus and nano fibers and a method of manufacturing and coating nano fibers of claim 1 and claims 2-16 dependent on claim 1 of the present invention are novel and inventive under PCT Article 33(2)-(3).

There is no reason for denying industrial applicability of the present invention.